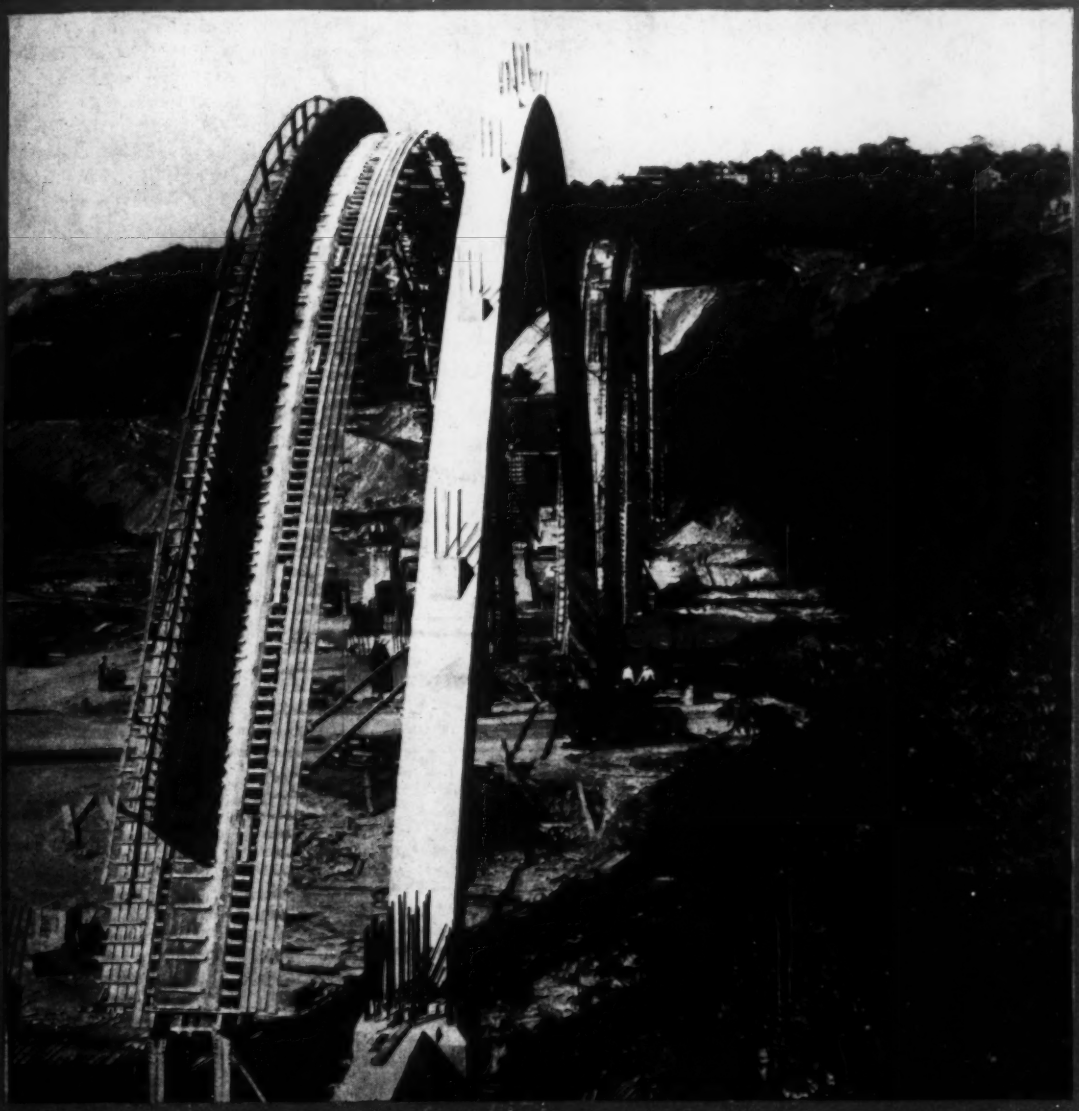
OCT 25 1948

ENGINEERING NEWS-RECORD

OCTOBER 21, 1948



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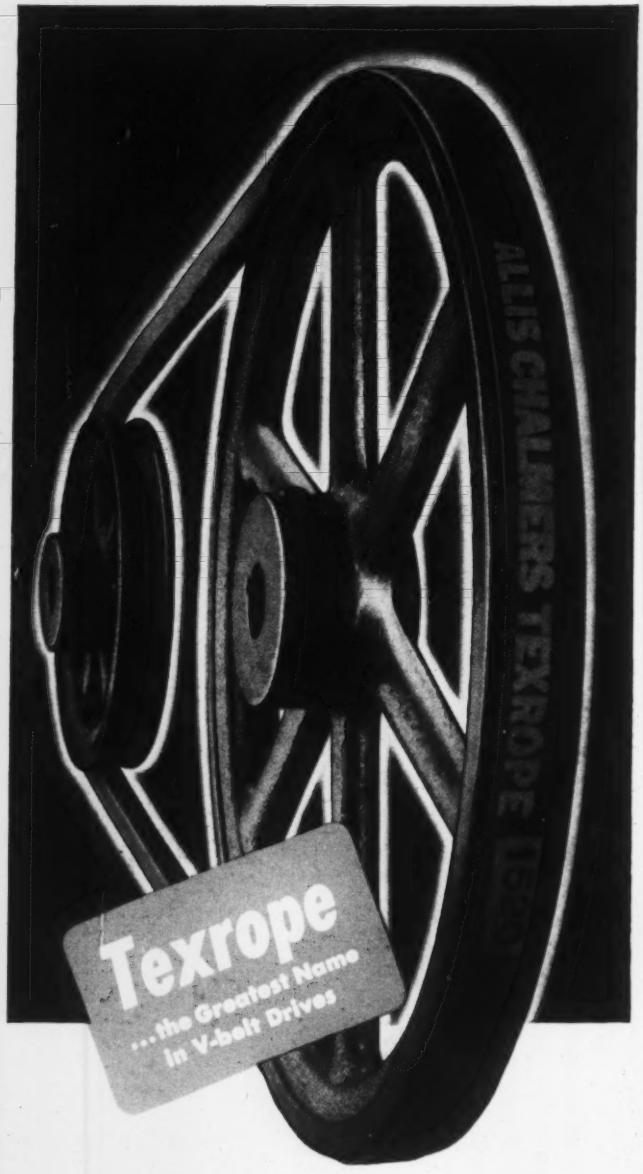

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THE CONSTRUCTION WEEK

STRIKE MONTHS—If your job planning requires that you allow for the possibilities of strikes, put down April as the most likely month for them, followed closely by May, and then June, July and August in that order. This is borne out by the records of the Federal Mediation and Conciliation Service. It mirrors the fact that most labor contracts expire in the spring or early summer, also that it is more appealing to strike in those seasons, when one can go fishing, instead of being out of work during the Christmas-spending period.

COST TALK—Don't expect building costs to go down much in the foreseeable future. That was the conclusion to be drawn from speakers' statements and corridor conversation at the recent Producers' Council meeting. Max Foley, New York architect, summed up the situation by urging a revised objective—stabilize costs at somewhere near present levels and cease holding out false hopes for lower costs. High labor rates and owners' demands for more plumbing equipment, more extensive electrical systems, more insulation, more closets, more and larger windows etc., work against large cost reductions, added James M. Ashley of Libby-Owens-Ford Glass Co., new president of the council.

HAND-TO-MOUTH BUYING—Apparently big construction buyers of electrical supplies are hoping for price reductions. Purchases—especially line materials—are being made as needed, in contrast to the early postwar practice of ordering everything for a specific job and dating the orders for time of shipment. The situation reflects the improved inventory condition of electrical supply houses and a conviction by buyers that prices can't go much higher.

HOW TO GET FOREIGN LOANS—U. S. Export-Import Bank has about $800 million on hand for loans to foreign countries—particularly Latin America. But it is forced to turn down many loan requests, largely because the applications fail to provide proper engineering and economic analysis on which to judge the soundness of a project. Some ideas on how engineers and their reports are used in connection with international financing operations were outlined in the May 13 Engineering News-Record.

AIR SHAKEUP—A major reorganization of the Civil Aeronautics Administration, aimed at streamlining the sprawling agency in the interest of economy in the headquarters office and more money for field expenditures, may mean quicker work and more airports approved for the construction industry. Although all but one of the seven assistant administrators and their staffs are abolished by the new order, the office of the Director for Airports, which supervises the construction program, was retained intact. Meanwhile, CAA continued to push its construction program, having approved 498 grants to local sponsors, aggregating more than $56,000,000 in the 19-month period ended Sept. 15, and announced that under the new setup regional administrators need not send projects to Washington for review.

CONTROLS AND PRIORITIES—The noticeable increase in talk about new lend-lease programs shouldn't be overlooked; adding as much as $3 billion for arms for western Europe to our own projected $15 billion defense budget would require reinstitution of controls and priorities. An already tight metal situation would become tighter. Straws-in-the-wind indicating a new lend-lease program include setting up of a West Europe military staff under British Marshal Montgomery; President Truman's statement that the aid to Turkey and Greece is paying off—followed closely by the hint that Greece will ask for more. Not to be overlooked is Gov. Dewey's Salt Lake City statement that "without political union in Western Europe, we are frittering away the billions we are sending overseas."

LAND OF THE BEAN—AND STEEL?—Mindful of the potentially huge iron-ore fields now being explored in Labrador, New England business men spent most of a recent three-day New England Council meeting in discussing the possibilities of a major steel plant along the Maine, New Hampshire or Massachusetts coastline. Speakers pointed out that the Labrador fields may become another Mesabi range—turning out 10 to 20 million tons of ore by 1953, and that geologists have already established some 300 million tons of high grade ore and look for an eventual tonnage in the billions. A major steel plant in New England would provide a ready, comparatively short-haul market.

PUBLIC HOUSING—Federal aid for state-financed programs of public housing would be urged by Candidate Dewey if he were president. He said as much in his recent speech inaugurating construction on the state-aided 1,940 apartment, Governor Alfred E. Smith Houses in New York City. And he has been solidly behind state-aid for municipal housing, which in New York state is implemented by a $135 million dollar loan fund. Aid to states would contrast with the earlier federal grants which were made directly to city housing authorities.

CENTRAL UTAH PROJECT—The Bureau of Reclamation and various official and semi-official Utah groups are preparing to ask Congress for funds for feasibility and design studies of the Central Utah project. As now considered, this might rank in cost with the Central Valley, Calif., and the proposed Central Arizona projects. Included in the 25-year development plan would be a 600,000-acre-ft. per year diversion from the Colorado River basin to the Salt Lake basin, irrigation of 450,000 acres (150,000 acres of newly irrigated land), and 385,000 kw. installed power capacity. Opposition might come from some Lower Colorado River basin interests who think that any diversion out of the basin will interfere with water quality.

NEWS BRIEFS

Industrial Construction—Buffalo Niagara Electric Corp. is spending almost $60,000,000 to provide more power and service in the *Buffalo, N. Y.*, area. . . . Bechtel Corp., San Francisco, has been awarded a contract for engineering and construction of a steam-electric generating station for the Pacific Gas and Electric Co. on San Joaquin River frontage near *Antioch, Calif.* Total cost is estimated at $51,500,000.

Housing — Albany Houses, a state-aided project, will occupy an 8.92 acre site in *Brooklyn, N. Y.* to provide 829 apartments. Bids have been taken by the N. Y. City Housing Authority on that project and also on the Todt Hill Homes, a low-rent project in the *Borough of Richmond* . . . A tract of 97 acres north of the Kensico Reservoir in *Westchester County, N. Y.*, is the site for a colony of homes to feature co-operative ownership and circular plots. Architect Frank Lloyd Wright is supervising plans. The houses will cost from $10,000 to $30,000.

Bridges—Indiana State Highway Department has appropriated $15,000 for preliminary work, including test borings, for a new bridge across the Ohio River at *Lawrenceburg, Ind.* . . . Gov. W. Preston Lane of Maryland was advised Oct. 7 that revised plans for the Chesapeake Bay bridge had been approved by Kenneth C. Royall, Secretary of the Army, and Maj. Gen. R. A. Wheeler, chief of Army Engineers. Maryland has offered $37,500,000 of bridge revenue bonds and will advertise for contracts for construction of the bay crossings. A nation-wide banking syndicate headed by Alex. Brown & Sons, Baltimore, has been formed to handle the bay bridge revenue bond offerings.

Highways—Bids will be received next month on the $6,692,577 Terrace track elimination at *Buffalo, N. Y.* . . . The first contract on the *Trenton, N. J.*, freeway is now under way. Ultimately about $10,000,000 will be spent for construction from the Delaware River to the Brunswick pike . . . PRA has awarded contracts of $4,347,864 to S. Birch & Sons Construction Co. and Morrison-Knudsen Co., Inc., for rebuilding of 80 miles of the Richardson and Glenn highways in *Alaska* . . . *North Dakota* Good Roads Assn. is working for roads appropriation of $8,000,000 from the state legislature . . . *Indiana* joint committee on street-highway programs says it will be necessary to make a $67,000,000 annual outlay for the next ten years to restore and maintain streets and highways in the state.

Water Supply and Sewers—A $7,000,000 sewage disposal system and treatment plant is proposed for *Wilmington, Del.* . . . *Defiance, Ohio*, will seek federal aid for construction of intercepting sewers and a disposal plant . . . Board of Works, *Indianapolis, Ind.*, has approved plans for an eastside sewerage improvement . . . Work has been started by V. B. Higgins Co. on a 3,000,000-gal municipal filtration plant at *Burlington, N. C.*

Blaw-Knox Photo

PITTSBURGH VIADUCT—These 175-ft. arches will carry the Penn-Lincoln Parkway from Edgewood, Pa., to the Squirrel Hill Tunnel approach in Pittsburgh. The contractor, Dinardo, Inc., is hoisting concrete to the top of the arch by bucket and crane.

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Supreme Court rules 40 hrs. is base for overtime pay

Decision seen hitting construction industry—Orders overtime to be figured on total 40-hr. pay including bonuses or premium pay for irregular hours

Construction contractors may have to pay higher overtime rates as a result of the Supreme Court's refusal to reconsider its "overtime on overtime" decision in the Bay Ridge stevedoring case. The wage-hour administrator began enforcing the new rules on Oct. 18.

The decision affects only overtime wages paid for work over 40 hours a week, and hits hardest those contractors who pay time and a half for Saturdays or holidays and for work before and after the normal daytime working hours.

Two kinds of overtime

The substance of the Supreme Court's findings is that extra pay such as time and a half, for working Saturdays, holidays or nights, is not "real" overtime unless the employee had previously worked a standard number of hours or days. If it is not "real" overtime, then the extra pay must be included as part of the "regular rate" in computing time and a half overtime that might be due under the Wage-Hour Law. Nor can such overtime payments be offset against the time and a half required by the law.

In two interpretations involving the construction industry, F. Granville Grimes, Jr., acting wage-hour administrator, has pointed out that there is no single answer that can cover the whole industry. It depends on the practices of each contractor, with the real test being whether the time and a half "is actually paid because of excessive hours of work," rather than because of inconvenient hours.

Work during week-end

In regard to time and a half or double time for Saturday or Sunday, the wage-hour office will consider such work as real overtime if the contractor's work-week begins on Monday. In such case, Saturday and Sunday would normally fall during overtime hours. The extra pay can be charged against overtime due under the law and need not be included as part of the regular rate of pay.

This would not be true, according to Mr. Grimes, if the employment is sporadic and determined by variable factors, so that it cannot be said that the week-end work normally falls during overtime hours. In such a case, the premium pay would have to be added to the regular rate for determining time and a half, and the Saturday and Sunday overtime could not be credited toward what is due under the law if more than 40 hours are worked that week.

On time and a half or double time for holiday work, the answer is clear and definite. Since such extra pay is not contingent on any prior work, it is not pay for excessive hours and therefore it is not "real" overtime. If a man works more than 40 hours in a week in which a holiday occurs, the contractor must include the extra holiday pay when figuring the regular rate on which time and a half must be paid. And the hours worked on the holiday are part of the regular 40 hours, not overtime hours.

Local requirements unaffected

Mr. Grimes has advised James D. Marshall, assistant managing director of the Associated General Contractors, that any overtime paid under federal or state laws for work in excess of eight hours a day will be regarded as true overtime payments, even though the contractor may frequently operate on a schedule of more than eight hours to constitute a day's work.

In a letter to T. C. Tejan of the Constructors Association of Western Pennsylvania, Pittsburgh, Mr. Grimes touched on some other points:

The rule that premium pay for Saturday and Sunday work is "real" overtime if those days normally fall during contractual overtime hours is not affected because the employee might be absent during the week because of a holiday or an excused illness and thus might work less than 40 hours.

When eight hours pay is given for seven and a half or seven hours work (such as on second and third shifts), the extra pay must be figured in as part of the regular rate on which time and a half overtime is computed. In other words, if the hourly rate is $1, and a man gets $8 for a seven-hour night shift, his regular rate is not $1, but $8 divided by seven, or about $1.14. The $1.14, then is his regular hourly rate, and time and a half after 40 hours would come to $1.71 instead of $1.50.

Building trades stall union shop vote

The National Labor Relations Board last week announced it had suspended plans for a union shop poll of the construction trades in Detroit, Mich. The move was seen as a prelude to abandonment of such elections under the Taft-Hartley law.

Opposition by the local Home Builders Association to a test union shop election scheduled for Detroit was a major cause of the suspension of NLRB efforts.

This apparent breakdown came after ten months of preparation during which one pilot election was held in western Pennsylvania. Heavy construction and road building employees were polled there last May. Eighty-one percent of 2,709 eligible voters favored the union shop.

In Detroit, where an area-wide group of all building and construction trades was to be polled, the election was made impossible by withdrawal of the home builders. This contractors association operated open shops before 1941, but since then it has held a contract with the AFL, negotiated separately from the general contractors. Fear of losing this separate bargaining position was given as the home builders reason for withdrawing from the plan.

The NLRB is said to be seeking another solution, but current Washington opinion sees little point in continuation of the elections—the unions have won 98 percent of the balloting so far.

ASCE hears need for economy moves as result of failure to raise dues

Delegates honor Boston Society of Civil Engineers on its centennial—discuss soil mechanics, costs, traffic and pollution

Soil mechanics, construction-cost accounting, stream-pollution abatement and Boston's traffic problems received major attention at the fall meeting of the American Society of Civil Engineers held in Boston Oct. 13-15. Legal questions relating to land titles also came up for active discussion in sessions arranged by the surveying and mapping division, one with representatives of the Massachusetts bar.

On the non-technical side, interest centered on the action of the Board of Direction on the society's budget as a result of refusal by the members to authorize an increase in dues. The board decided to cut in half the budget allowance for the society's three regional offices, leaving the matter of which ones to close or whether to close all of them to later decision. No reduction in section allotments was made. Fewer papers will be published, and discussions in *Proceedings* probably will be curtailed. Finally, a special board committee was set up to study the whole organization of the society.

Five men were elected to honorary membership in the society. They are Charles H. Buford, General Lucius D. Clay, Donald Derickson, Gano Dunn and Andrew Weiss.

Boston Society honored

Boston had been selected as the meeting place in honor of the Boston Society of Civil Engineers, which this year is celebrating its centennial, four years ahead of the ASCE. How the Boston society started was recounted by Prof. John B. Babcock of MIT in an illustrated talk at the luncheon following the formal opening session. Included were sketches of some of the men who participated in the formation of both societies and later became national figures.

So many newcomers, zealous but uninformed, have interested themselves in stream pollution that a "crazy quilt of pollution abatement policy" is resulting, said Thomas R. Camp, consulting engineer of Boston, in a paper before the Sanitary Engineering Division. He urged engineers to bring some order into this chaos by developing a rational policy in which technology and economics are sensibly balanced. His paper outlining his ideas of the essentials of such a policy was followed by one by E. Sherman Chase of Metcalf & Eddy, consulting engineers of Boston, describing how a similar policy is being put into practice on the Androscoggin River in Maine (*ENR* Dec. 18, 1947, vol. p. 842, Dec. 25, 1947, vol. p. 858).

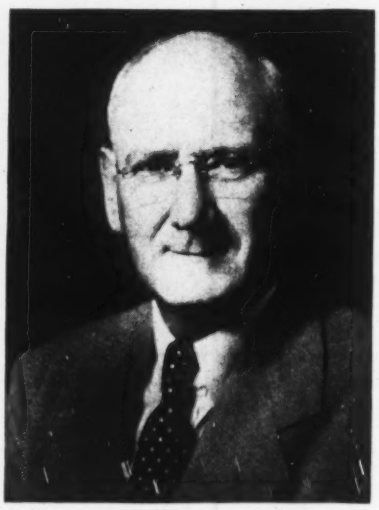
First, said Mr. Camp, streams must be classified as to use—public water supply, power, irrigation, waste disposal, etc. On this basis standards of water quality may be established for the particular stream or reach thereof. Thereafter, to require more cleanup than the standards indicate is necessary would simply be an economic loss.

Treatment of waste

It is also unreasonable to require all polluters on a given watercourse to treat their wastes. It may be equally unreasonable even to require the same degree of treatment for similar wastes. Moreover, the means by which the required degree of treatment is accomplished should be left to the ingenuity of the polluter.

The criterion is the standard set for the stream. When that is reached no further treatment of waste is justified. Cost, of course, must be assessed over all contributors to pollution, but Mr. Camp sees this as only a sometimes difficult problem and not an insoluable one.

Elements of this policy have been applied to the Androscoggin River, one of the worst polluted streams in the U. S. recognizing that one of its principal justified uses is for disposal of industrial wastes, the impossible and unsound objective of returning the waters of the stream to pristine purity has never been considered, said Mr. Chase. Instead, the pulp and paper companies, whose sulphite wastes correspond to 2,100,000 of the 2,400,000 equivalent-population wastes that the stream carries, have sought merely to eliminate the resulting odors and atmospheric corrosion nuisances. And the state has agreed as to the sufficiency of the objective.



FRANKLIN THOMAS, of California, who will head the ASCE in 1949.

The principal remedial measure has been for the largest company to build a 22 mg. lagoon for storing the sulphite liquor during the low stream-flow months of the summer. All of the companies also have been required to reduce their production of sulphite-pulp production during the summers about 20 percent, and this past summer about 50 percent.

One company has converted its operations from sulphite to sulphate pulp and also during the past summer three companies paid for 400 tons of sodium nitrate, which was put in the stream as an odor-control measure. By this sensible approach to the problem of pollution control, Mr. Chase reported, great improvement in the river has been effected without uneconomic expenditures.

Two other speakers before the sanitary meeting were Karl R. Kennison who described Boston's water supply tunnels and William L. Hyland who presented cost figures on the "utilidors", the underground utility conduits that his firm, Fay, Spofford & Thorndike, consulting engineers of Boston, have developed for our military installations in Alaska. Such conduits, containing space for water, sewage and steam lines cost 2 to 4 times what conventionally buried pipes would cost, but on an annual operating basis are no more expensive. Furthermore they are much less liable to require emergency maintenance than buried pipes.

Better cost-keeping

Whether construction costs are high, as they are now, or lower, as they once were, they need to be kept under control if the contractor is to make a profit or the engineer is not to waste the investment of the owner. To control costs, they must first be known, accurately and currently. These were the premises upon which the program of the Construction Division was based, and they were usefully enlarged upon by two contractors and an engineer of the federal government.

Significantly, there was unanimous agreement upon the necessary procedure to be followed if costs are to

be currently known. This procedure is to adopt a cost-accounting system in which the various cost accounts correspond exactly to easily identifiable items in the estimate and in the bid. R. H. Heitman, chief engineer, Western Contracting Co., Sioux City, Ia., illustrated this by pointing out that if a unit price item is "concrete", it was arrived at by considering forming, aggregate production, mixing and placing and that the cost accounts, therefore, should correspond to these divisions. Moreover, equipment charges—hours operated, repairs, fuel, rental—should currently be charged to the bid item on which the piece of equipment worked.

Directly in line with this procedure, and influencing its wider adoption, is a uniform system of cost classification just developed by the Bureau of Reclamation and described by Kenneth W. Markwell, assistant commissioner. Every type of work or bid item used by the bureau is represented by a cost account with a code number. These coded accounts will be used from the time that the feasibility studies for a proposed project are made right on through the design estimating, construction and operation phases of the work. Every item of a specification will be limited to a single account classification, which then will conform to a type of work or a part of a structure easily identifiable on the drawings. When contractors bid these items, they will soon sense an advantage in setting up their own accounts on the same basis, in Commissioner Markwell's opinion.

The third paper on the program, by H. P. Maxton of the Raymond Concrete Pile Co., gave further impetus to better cost accounting. As chairman, he reported the progress being made by a committee of the Construction Division in developing a cost manual to guide and foster the use of proper cost-accounting procedures, and to educate cost engineers in the fundamentals of their responsibilities.

Many informative papers

Those attending the other division meetings were repaid by numerous informative papers.

A method of designing rigid jointed trusses (in which loads tending to cause buckling are common) by the Hardy Cross method of moment distribution was presented by Prof. N. F. Hoff, Brooklyn Polytechnic Institute.

Tests sponsored by the Corps of Engineers on concrete beams subjected to impulsive loads of long duration (up to 1 sec.) were reported by Prof. Robert J. Hansen of MIT. They indicated that the beams will sustain much higher stresses under such dynamic loads than under static loading so long as they remain in the range of elastic action.

Prof. Charles M. Spofford, consulting engineer of Boston, told of his firm's experience in designing structures for the permafrost regions of Alaska. These papers were in the structural division meetings.

In the power and surveying division sessions, New England problems predominated—building the Berlin, N. H., hydroplant, by H. D. Resseguie of the Public Service Co. of New Hampshire; water storage conditions in Maine, by Prof. Howard M. Turner of Harvard; land titles, by W. T. Fairclough of the Massachusetts Land Court; and control surveying, by E. C. Houdlette, Massachusetts Dept. of Public Works.

Traffic studies take form

Real progress toward solution of the serious traffic problems of the Boston metropolitan region was reported by Rear Admiral Wm. H. Buracker (retired), commissioner of public works. During the year a joint board consisting of the heads of the Department of Public Works, the State Planning Board and the Metropolitan District Commission presented to the state legislature a master plan calling for eight radial express highways and a belt expressway totaling 87 miles that is designed to handle traffic estimated at voolumes ranging from 33,000 to 80,000 vehicles per day by 1970. Most of these expressways will be limited-access divided highways at grade, but some will be elevated structures. The belt highway, which will have the greatest traffic density, will have six traffic lanes.

This plan was prepared with the aid of three consulting firms: Chas. A. Maguire and Associates, Providence; DeLeuw & Co., Chicago; and J. E. Greiner Co., Baltimore. Total cost of the expressways will be $322,000,000, including changes in connecting streets.

Legislation calling for a bond issue of $100 million to start work on this and other state projects that cannot be financed on a pay-as-you-go basis because of the volume of work that should be put under construction at an early date was introduced in the legislature this year but failed to get approval. However, Admiral Buracker said that this set-back has not prevented a start on the project. The new Mystic River Bridge, which is under construction, will form part of one of these expressways, as will the East Boston Expressway on which work is going forward. Construction plans for a second tube for the Sumner vehicle tunnel are under way.

Boston's master highway plan is notable for the way in which it avoids cutting suburban communities in two, said Charles A. Blessing of the Chicago Plan Commission, who stressed the importance of studying this aspect of express-highway planning. Such highways, he added, can be used to foster the development of local shopping centers and the decentralization of industry.

Property values down

In comment on the expressway plan, T. T. McCrosky, consulting engineer, New York, said that during the last 30 years much of downtown Boston had lost at least half of its assessed valuation, due largely to traffic congestion.

The advisability of building these expressways at grade through the congested parts of Boston was questioned by Fred J. Hughes of the PRA office in Albany. He recommended their construction as two-level elevated highways within the property lines. Shops would be built below the highway along the street frontages, and offices or commercial buildings could be built above the highway when warranted. Mr. Hughes also favored connecting the highways through downtown Boston with large garages built on blighted land.

Earth pressure measurements

In recognition of the large number of men employed in research in soil mechanics in the Boston area, two sessions were given over to discussion of topics in that field. At the opening session, Donald W. Taylor, associate professor of soil mechanics at MIT, said that most devices that have been developed for determining pressures in soils are unsatisfactory and give erratic results or fail completely in a short time. Such cells generally have mechanical weaknesses, are too rigid to give accurate results in plastic soils, or have not been properly placed.

For satisfactory results, Prof. Taylor said, there should be four cells in each area where pressures are to be determined, one vertical, one horizontal, and two inclined cells. There also should be a device for determining pore-water pressure.

Fills for Logan Airport

Methods employed in building the fills for Logan Airport in Boston harbor were described by Arthur Casagrande, professor of soil mechanics at Harvard. These fills are of blue clay dredged from the harbor bottom and were placed on 5 ft. of organic silt overlying the same type of blue clay. To date, the settlement has been very close to predictions, and since the gravel fill and pavements have been added, about half of the total settlement of 0.8 ft. that is ex-

(*Continued on p.* 13)

FOREIGN DEVELOPMENTS

France—Most of the first allocation of France's counterpart Marshall Plan funds will go into construction and equipment for electric power, railroads and coal mining. That was evident in a concurrent announcement last week by Paul G. Hoffman, Economic Cooperation Administrator, in Washington, and David K. E. Bruce, chief of the ECA special mission to France, in Paris.

Counterpart funds in a Marshall Plan country are derived from the sale by that country to its citizens of supplies furnished by ECA to the nation under the Foreign Assistance Act. The counterpart funds, of course, are in the nation's own currency and not in American dollars. Under the mandatory agreement between the United States and the foreign country that must precede all ECA aid, the counterpart funds can be expended only for specified purposes, after approval by both governments.

By agreement with ECA, France—as well as other countries participating in the European Recovery Program—makes deposits in a local currency account of funds equivalent to grants received from ECA. These counterpart funds may be used, under the ECA law, for internal monetary and financial stabilization, stimulation of productive capacity and the exploration and development of new sources of wealth.

The American and French governments agreed to release 45 billion francs (approximately $150,000,000) in September. Release of an additional sum not to exceed 45 billion francs is contemplated in October, dependent upon the progress of the French program for financial recovery and monetary stability.

With the counterpart funds, French industries will construct hydro and steam power plants, open new and improve old coal mines, reconstruct and reequip railroads—with emphasis on rolling stock—and finance new plants to produce fertilizers.

France's present aim is to increase electric power output from 27 billion kwh. in 1947 to 40 billion by 1952; coal production from 47,000,000 tons in 1947 to 64,000,000; nitrate fertilizer production from 125,000 tons to 350,000; and transportation capacity of French railroads from 140,000,000 tons to 200,000,000.

Industrial Construction

India—Ebasco Services, Inc., of New York, will design and supervise construction of a $5,000,000 paper mill to be built at Chandni, 325 miles northeast of Bombay. The mill will produce newsprint from bamboo and salai trees. This process has never before been put on a commercial basis.

Canada—Plans are being pushed for the development of extra power by the British Columbia Power Commission in the Hope region at the head of the Frazer Valley. A new hydro site on Silver Creek, west of Hope, is being investigated.

Panama—Paul Smith Construction Co. of Tampa, Fla., has received a contract to build a 360-room hotel in the Republic of Panama. Construction will begin soon on a 600-day completion schedule. Estimated cost of the project is $3,500,000.

Public Construction

India—The now remote seacoast town of Kandla on India's western shores may become one of her most important port cities if the government acts on the report of a special committee. The site has been selected as a substitute for Karachi, now in the dominion of Pakistan, which used to be the port of entry for all northern India.

As a result of partition, overcrowded Bombay and Calcutta facilities have been swamped by the diversion of trade through them. Full cost estimates remain to be made, but at least $30,000,000 worth of new rail lines would be required to tie the new port to the main routes.

Situated at the head of the Gulf of Cambay, Kandla already possesses a 30-ft. deep natural harbor. The committee reported that construction of facilities to handle 3,000,000 long tons of cargo as a first stage would be feasible.

Bridges

Australia—The $325,000 substructure for a new 1536-ft. bridge over Iron Cove, in the Sydney Harbor area, is nearing completion and bids will be invited shortly for the superstructure of seven 168-ft. truss spans, four plate girder spans and approaches.

The bridge will replace an adjoining 60-year old iron lattice structure. It is designed to carry double streetcar tracks and other heavy traffic on a 44-ft. roadway, and provision is made for two 7-ft. sidewalks.

The sinking of some of the eight pairs of piers to support the steel trusses has caused considerable trouble because of faulty information on the harbor bed gained by percussion drilling. The piers consist of two reinforced concrete cylinders braced in parallel with a tie beam and surmounted by square columns. The cylinders are precast ashore to a weight limit of 140 tons and then built up in place.

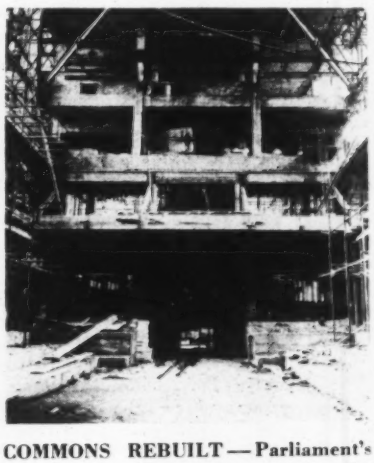
San Salvador—John A. Roebling's Sons Co. of Trenton, New Jersey, has been awarded the contract to build a suspension bridge across the Lempa River.

William A. Reeve, agent for Roebling's, signed the contract with the government, which calls for a 521-meter structure with three spans. It will be 6.60 meters wide, and carry a reinforced concrete roadway. The total involved is $1,777,500, and the allotted construction time is 15 months.

Miscellany

Mexico—Indication of a decrease in Mexican government building construction works, because of critical economic conditions resulting from the monetary devaluation on July 22, was seen in the recent announcement by President Miguel Aleman that government expenditures will be held strictly in accord with government revenues.

However, the President indicated in that message that there will be an easing up of import restrictions on several items, among them machinery and equipment, that concern engineering and building construction, when he announced that there will be a revision of import bans and restrictions.



COMMONS REBUILT—Parliament's new House of Commons, replacing the blitzed chamber, shows progress. Arch at center was salvaged from old structure and incorporated in the new at Winston Churchill's suggestion.

Ratify Upper Colorado water compact

Signing of the Upper Colorado River Basin Compact at Santa Fe, N. Mex., last week prepared the ground for state and congressional action on needed irrigation and hydroelectric development in the area, according to William E. Warne, acting Secretary of the Interior.

Secretary J. I. Krug, in San Francisco, Calif., and Commissioner of Reclamation Michael W. Straus in Washington, hailed the compact as marking a new epoch of national importance in reclamation advancement.

Compact commissioners of Utah, Colorado, Wyoming, New Mexico, and Arizona, and Presidential Representative Harry W. Bashore signed the 29-page document. The Upper Basin states completed the draft of the compact in July (*ENR* Aug. 5, p. 57).

"The next move," said Mr. Warne, "is ratification by the state legislatures and confirmation by the Congress. Then we can lay before the Congress for authorization a comprehensive program that will enable the people of the upper basin states to make full beneficial use of the new wealth which development of the Upper Colorado will unleash."

The Upper Basin Compact was worked out within the terms of the seven-state overall Colorado River Basin Compact, made in 1922. The 1922 compact divided the waters of the Colorado between the Upper and Lower basins, but it did not allocate the amount each particular state could use.

The new compact allocates consumptive use of the water as follows:

To Arizona, 50,000 acre ft. annually of the remainder available to the Upper Basin under the 1922 compact; Colorado, 51.75 percent; New Mexico, 11.25 percent; Utah, 23 percent, and Wyoming, 14 percent.

Willamette basin to get $58 million dam

Bids will be invited early next spring on major contracts for construction of Detroit Dam, unit of the Willamette River Basin project, Col. O. E. Walsh, Portland district engineer, Corps of Engineers, has announced.

The dam, located on the North Santiam River, will cost an estimated $58,899,000. It will be an all-concrete gravity structure, 448 ft. high and 1580 ft. long, topped by a roadway 20 ft. wide.

Construction of the dam will require four years. The construction town at the damsite, known as Mongold, is nearing completion. Provision has been made to bring a 230,000-v. power line to the damsite ahead of actual construction.

Storage at the dam will be operated in the joint interest of flood control and hydro-electric power production. Total power installation will be 100,000 kw.

Reconstruction of the North Santiam highway, necessitated by the project, will be completed by July 1, 1949.

Plan $45 million clean-up of Pennsylvania streams

Clean streams throughout the Commonwealth is one of the major goals of the present administration, Gov. James H. Duff told Pennsylvania legislators and officials recently.

The Susquehanna River and other streams will receive the same thorough anti-pollution treatment now being administered to the Schuylkill River, the governor declared in an address prior to an inspection tour of the $55,000,000 Schuylkill desilting project.

Members of the appropriation committees of the state legislature, who will be asked to set aside about $25,000,000 to complete the state's phase of the Schuylkill cleanup, were shown evidence that the work is well advanced.

So far, $10,000,000 has been allocated for the work, on the state's side of the project. In addition to the $35,000,000 Pennsylvania plans to spend, the federal government will expend about $20,000,000 in cleaning the river between Norristown and Philadelphia.

The clean streams program extends beyond the Schuylkill; some 70 municipalities and many industrial plants on the Susquehanna above Harrisburg have already been served notice to stop dumping sewage and industrial wastes in that river.

FPC favors private utility for Kings River project

A preliminary recommendation to the Federal Power Commission on applications for development of California's Kings River has favored a private utility over the Bureau of Reclamation and an irrigation district.

This recommendation was made by John C. Mason, staff counsel for FPC, who advised the commission to grant a permit to Pacific Gas & Electric Co., providing the utility agrees to compensate irrigationists for interference with their operations.

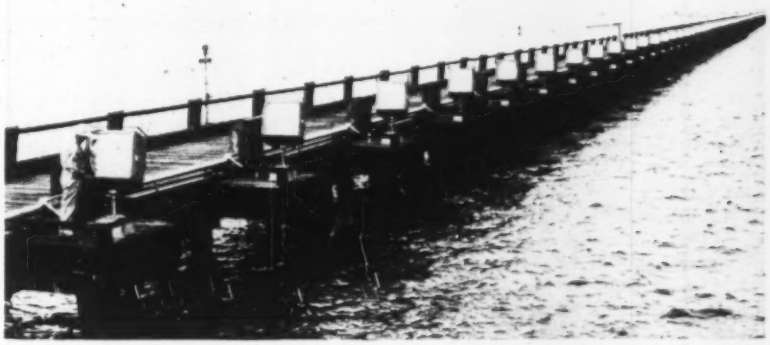
All three agencies are seeking permission to develop the north fork and main channel of the river.

In view of California's critical power situation, Mason said, it seemed unwise to wait for Congressional approval of the Bureau's plans for the river.

He opposed endorsement of the Fresno Irrigation District's application because of its "indefinite" status.

Flood control agency set up in Kentucky

Creation of a state agency to investigate proposed flood control projects has been authorized by Gov. Earle C. Clements of Kentucky. This agency, a unit of the state conservation department, will be called the Flood Control and Water Use Board and will consist of a director and his staff and a nine-member advisory board.



FOG CUTTERS—When the fog gets thick enough to slice, these Westinghouse all-weather approach lights will do the job at New York's International Airport. Alternate lights in this row of 70 are the new krypton lamp, which flashes with a 3,300,000,000 peak candlepower brilliance.

MUNICIPAL AFFAIRS

Parking problems constituted the leading topic of discussion at the recent conference of planning technicians at Long Beach, Calif., attended by about 460 members of the American Institute of Planners and the California Planners Institute—now merged with the national body.

Speakers pointed out that California probably has gone further in the development of supermarkets and high class neighborhood service stations with their provision for off-street parking, usually in front of the stores, than have many other sections.

The trend toward establishing off-street parking through zoning ordinances was found to be marked and the parking meter was called a great help. The requirement in zoning ordinances that every family, business and institution that create congestion solve its own problem is proving successful.

A number of cities have made careful surveys of the parking area requirements of supermarkets, restaurants, taverns, banks, theaters, hospitals, and churches; their ordinances or amendments to existing zoning ordinances are based on these actual survey figures.

Delegates discussed the interregional or interstate highways, and of depressed, limited access expressways and their effect on cities by running these expressways directly into and through business centers. The insistence on the part of highway departments, apparently approved by federal authorities, to enter cities and locate highways by the old line and grade formulas which had proved so effective in open country, was deplored. In the location of a freeway into a city there are considerations other than line and grade. Highway engineers are expert in the engineering details of highway construction, but the location of these highways may be in error.

The gradual loss of parking lot areas as they are required for new buildings was a problem presented by a number of cities, and the need for permanent parking areas in order to stabilize business property values and business locations was cited.

Merchants have sometimes given free parking for one or two hours to customers making purchases. Sacramento, Calif., has reversed this process and gives free tokens to those customers who come downtown between 10:00 A. M. and 4:00 P. M. using rapid transit, which, in Sacramento, is all buses.

Presiding at this conference was Frederick J. Adams, professor of city and regional planning, Massachusetts Institute of Technology.

Other recent parking developments are:

According to the "Tribune" of Tampa, Fla., that city's failure to solve its downtown parking problem is costing it thousands of dollars a day.

Minneapolis, Minn., is increasing parking meter space from 19 to 22 ft. to accommodate longer cars and to facilitate parking. This is at no increased cost to parkers but about one meter space per block is lost in the "stretching" process.

Mayor Al Feeney of Indianapolis, Ind., has appointed a committee of 16 to study the city's parking problems.

Buffalo, N. Y., is considering plans for off-street parking in the downtown apartment house section.

New parking meter installations are: Kendallville, Ind., 225; Cuyahoga Falls, Ohio, 250; Akron, Ohio, 700; Youngstown, Ohio, 425; Boston, Mass., 2,000; and Decatur, Ind., 150.

Harbor Development

Immediate construction of a lake front pier is needed to serve the lake passenger trade of Milwaukee, Wis., according to Harry C. Brockel, municipal port director. Other harbor developments are:

The city council of Toledo, Ohio, has asked the U. S. Corps of Engineers to deposit on city property north of Bay View Park 460,000 cu.yd. of dirt and silt to be dredged in the future from Maumee Bay. The fill would be heaped behind steel retaining walls approximately 2,000 ft. long to provide land for new developments. Plans call for creation of a 35-acre tract, to be developed into a park area and mooring basin.

Work has started on the $15,000,000 upper river harbor project at Minneapolis, Minn. The first part of the project calls for removal of 50,000 cu.yd. of sand and rock from the Mississippi River between the Washington and Cedar Avenue bridges.

N. Y. City Capital Budget

After assaying New York's urgent municipal public-works needs, the City Planning Commission last week proposed a 1949 capital-outlay budget totalling $317,056,203. This budget, of which $218,265,542 would come within the constitutional debt limit, would authorize funds for water-supply expansion, new schools, rapid-transit improvements, refuse-incinerator construction and waterfront rehabilitation.

The budget total, largest since 1938, includes $79,713,000 outside the debt limit to finance first and second-stage work on the Delaware Water system.

The proposed budget provides for thirteen new schools under an allocation of $47,766,300 for the Board of Education. With the projects authorized for 1948, this allocation would permit a program of 50 new schools for the period 1947-49 to be rounded out.

An allotment of $48,643,971 is made to the Board of Transportation of which $25,650,332 is new funds. To finance a continuing project—modernization and rehabilitation of rapid-transit lines—$37,500,000 of the total alloted is set aside. The remainder is earmarked for extensions and connections.

The Department of Sanitation would receive $16,000,000 to construct refuse and garbage incinerators.

About $10,000,000 is earmarked to begin work on the Department of Marine and Aviation plan for reconditioning piers and waterfront facilities.

No provision is made for construction of the much-discussed sewage-disposal projects, which were merely listed as meriting future attention.

If the proposed budget is approved by the Board of Estimate, an unreserved debt-incurring margin of about $56,000,000 would remain on Dec. 31, 1949.

Baltimore Shows Plans

This week Baltimore, Md., is observing "Downtown Week." Exhibits of needed public improvements, to be voted on in November, are being displayed in over twenty centrally located store windows. These feature redevelopment of blighted areas, Light Street waterfront reconstruction, bridges and highways, off-street parking program, stadium, recreation, water improvements, sewer improvements, buildings and structures, hospitals, school equipment, People's Court, court house, and conduits.

Water Supply and Sewers

The city council of Dallas, Tex., has approved the sale of $3,340,000 in improvement bonds, the major part of which will be for extension of the city's water distribution system.

Low bids totaling $1,454,490 have been received by Tampa, Fla., for the construction of the first units in a $3,500,000 program for expansion of the riverside waterworks plant in that city. In the meantime the West Coast Chapter of the Associated General Contractors is criticizing the city's policy of doing new construction of water distribution lines with day labor hired by

the city. The contractors say that method will prove more costly and less efficient.

A $5,000,000 sewer improvement program is being worked out jointly by East St. Louis, Ill., and the East Side Levee and Sanitary District, with the city to pay only about one-fifth of the total cost. This will provide a combined sanitary and storm water trunk line sewer to serve all of the city's present sanitary and storm water lateral lines, with the exception of those in the extreme eastern end of the city.

A three-way solution to the Worcester, Mass., municipal water supply problem was recently approved by the city council water committee. A $3,000,000 loan will be needed to finance it. The goals are:—

A one-billion gallon reservoir at Quinapoxet Pond in Holden; a pumping station, force main and standpipes on Indian Hill; and installation of new and larger water mains throughout the city. Work is expected to start by next summer if the program is approved by the state legislature.

A $10,000,000 water and sewer expansion program for Albuquerque, N. M., has been stalemated by failure of the city commission to agree on issuance of a revenue bond issue to finance immediate work. The program was recommended by Hasie and Green, Lubbock, Tex., engineering firm, in a master plan for expansion of Albuquerque's municipally-owned water and sewer systems. The city has been forced to ration water during the last two summers, and overloaded sewer mains overflowed recently.

The city council has side-tracked all plans for providing soft water for Jacksonville, Fla., but has set Nov. 30 for a referendum on a $5,000,000 water revenue certificate issue and a 50 percent increase in water rates.

State Aid to Cities

According to the Public Administration Clearing House, states are contributing to the support of local governments at the rate of more than $200,000,000 per month.

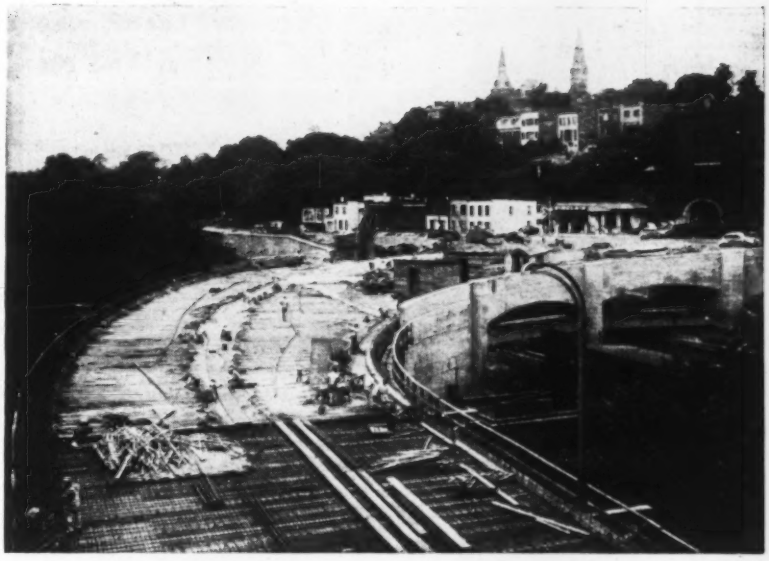
The Council of State Governments, citing recent U. S. Bureau of the Census figures, reports that states paid $2,600,000,000 in aid to localities last year, or nearly one-third of the $8,100,000,000 state expenditure total for the period.

Aid to local jurisdictions went up 24.5 percent in 1947, while state revenues rose 17.8 percent. The aid included both local shares of state-collected taxes and grants by states to localities for specific purposes.

Wisconsin paid out 54.2 percent of its total expenditures to aid localities. Colorado was runner-up with 52 percent. Ohio third with 43.8 percent, New York fourth with 42.8 percent, California fifth with 41.9 percent, and Indiana sixth with 40 percent.

In dollars, New York spent the most on aid to localities. Out of total state expenditures of $907,000,000 last year, the state spent $388,000,000 on local governments. California ranked second with $290,000,000.

Local public welfare services got $197,000,000 from their state governments, local highways $437,000,000, and other local functions $539,000,000.



WHITEHURST FREEWAY NEARS COMPLETION—Paving progresses on the first elevated highway in Washington, D. C. This stretch of road by-passes the Georgetown section, spanning a canal and bringing express traffic downtown.

Using Sewer Gas

As a means of reducing fuel bills, consideration is being given by Indianapolis, Ind., city officials to the installation of digesting apparatus to capture the wasted sewer gas at its sewage disposal plants. According to James H. Bookedis, city superintendent of public sanitation, the city's sewage disposal plants consume an average of 100 tons of coal daily.

Bookedis pointed out this method also would reduce the volume of sludge. He said many other cities turn their sludge into fertilizer, but that that process is expensive. The Indianapolis sewage disposal plants have been dumping sludge into lagoons for the last 25 years. Other Indiana cities now using the recapture of sewage gas from sludge include Richmond and Marion.

St. Louis Airport

The Board of Public Service, St. Louis, Mo., will receive bids until Oct. 26 on improvements to Lambert-St. Louis Municipal Airport in St. Louis County, near Robertson, Mo., to cost about $2,200,000. The work will consist of about 2,925,000 cu.yd. of grading and approximately 28,000 lin. ft. of drainage sewers ranging in size from 8-in. to 48-in.

Municipal Briefs

A comprehensive program for relocating railroads to eliminate grade crossings is almost completed at Niagara Falls, N. Y.

Sherwood L. Reeder, formerly of Cincinnati, Ohio, is now city manager of Richmond, Va.

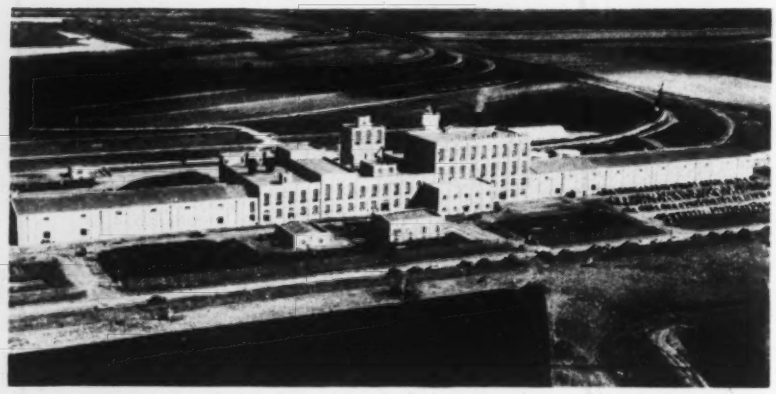
Service Director A. R. Batt of Defiance, Ohio, is seeking an engineer to make a preliminary survey for intercepting sewers and a sewage disposal plant.

Twenty-one social science students of Ball State Teachers College are doing research for a city plan commission survey at Muncie, Ind.

Mayor Cunningham of Omaha, Neb., says the proposed general revision of the city zoning ordinance will free considerable property for the construction of rental housing.

City council of Jacksonville, Fla., has included in its budget recommendations an item of $15,600 for hiring a traffic engineer.

The port commission has authorized a $2,000,000 bond issue for extension of the Portland, Ore., airport by construction of an 8,500-ft. runway. The total cost of the first phase of the project is estimated at $2,582,554.



DOUBLED SUGAR OUTPUT is expected in the Red River Valley, Minn., as a result of completion of this $5,000,000 beet sugar plant. Built by Fegles Construction Co. of Minneapolis, the plant can produce 400 tons of sugar from 3,000 tons of beets daily. Five mgd. of water are used, and settling ponds for waste water may be seen in the rear.

ASPO ends three-day meet, debates decentralization

American Society of Planning Officials members, reinforced by a seven-nation representation from Latin-America, wound up a three-day meeting in New York last week.

At their closing session the planners debated industrial decentralization with the consequences of atomic weapons receiving the attention of both sides. Tracy B. Augur, assistant to the director of the TVA's department of regional studies, favored decentralization, arguing that the city of 50,000 is ideal for social, economic and political organization and too small a target for atom bombing.

Charles E. Merriam, of the University of Chicago's department of political science, countered with the contention that small towns and cities were devastated in the last war even without the atom bomb.

Welcomed by mayor

In greeting the planners at their opening session Mayor William O'Dwyer called New York a "masterful example of haphazard development" and went on to outline plans and planning problems of the metropolitan area.

Lewis Mumford, author and lecturer, asserted in a keynote talk that planning should satisfy spirtual, economic and cultural needs. Specifically, he cited the child's need for stones to build with and to throw, and he asked planners, "How many hiding places have you given for lovers in your planning?"

An inter-American planning session attended by delegates from Argentina, Chile, Educador, Panama, Uruguay, Venezuela and Puerto Rico was presided over by Amos E. Taylor, director of the department of economic and social affairs, Pan American Union.

Charles B. Bennett of Los Angeles and Rafael Pico of Puerto Rico were re-elected as ASPO president and vice-president, respectively.

To move 76 houses a mile to make way for bridge

A spectacular mass moving of 76 houses for a distance of more than a mile is to take place soon in Chelsea, Mass., to make way for approaches to the $27,000,000 Mystic River bridge.

The removal project will cost about $550,000, but it is expected that the cost will be recovered through the resale of the buildings which otherwise would have had to be demolished. In addition, Chelsea will be spared the loss of 76 taxable dwellings.

Authorities announce that all details of the big task of moving have been completed with the cooperation of utilities and other parties concerned. Power, light, gas and telephone companies, as well as the Transit Authority.

Newark truck terminal contract is awarded

The Port of New York Authority has awarded a contract at $3,998,240 to James J. Waters Corp., New York, for construction of the New Jersey Truck Terminal building in Newark.

This terminal, which it is said will be the largest of its kind, is expected to be completed within a year. It will occupy a site south of Ruppert Stadium, adjacent to two main highways. It will be two stories high, cover 29 acres and have facilities for handling 160 trucks at one time, taking care of 2,500 tons of merchandise freight daily.

Begin $18 million locks on Chain-of-Rocks canal

Concrete work has been begun on the $18,000,000 locks at the lower end of the Chain-of-Rocks canal, near St. Louis. The canal will flow to the east of the Chain-of-Rocks rapids of the Mississippi River and will remove the last obstacle to navigation between St. Paul and St. Louis.

Completion of the project is set for 1950, according to Col. R. E. Symser, Jr., district engineer, St. Louis District. The canal will be 8.4 miles in length and will extend from the Merchants Bridge, on the St. Louis waterfront, to a point just south of the confluence of the Missouri and the Mississippi rivers. Total cost of the improvement will be $30,000,000.

There will be two parallel locks, one 600 ft. and the other 1,200 ft. in length. Both will be 110 ft. wide. A total of 400,000 cu. yd. of concrete will be used by the contractor, River Construction Corp.

A $1,500,000 bridge to carry U. S. Route 50 over the channel of the proposed canal is expected to be completed by November 1.

Build two-track tunnel 7,135 ft long in W. Va.

The Norfolk and Western Railway is driving a 7,135-ft tunnel through a mountain near Bluefield, W. Va. Railway officials claim that it will "probably be the largest double-tracked railway tunnel in the world" in both length and cross-section. The completed section will measure 31 ft. across and be 34 ft. high at its highest point.

At present the face is advancing 12 ft. per day. Haley, Chisholm and Morris of Charlottesville, Va., is the contractor.

MAJOR MEETINGS

American Welding Society, annual meeting, Bellevue-Stratford Hotel, Philadelphia, Pa. Week of Oct. 24.

Southeastern Association of State Highway Officials, Edgewater Gulf Hotel, Edgewater Park, Miss., Nov. 3-5.

American Public Health Association, Boston, Mass., Nov. 8-12.

National Reclamation Association, Oklahoma City, Okla., Nov. 17-19.

Society for Experimental Stress Analysis, annual meeting, Hotel Commodore, New York City, Dec. 2-4.

Highway Research Board, National Academy of Sciences and National Research Council, 2101 Constitution Ave., Washington, D. C., Dec. 7-10.

Grade hardwood plywood on industry-wide basis

The Southern plywood industry has brought about the grade marking of hardwood plywood on an industry-wide basis. This announcement was made at a recent session of the Southern Plywood Manufacturers Association graders' school in Brunswick, Ga.

As the first phase of a program of production improvement, the association has established a testing laboratory at its headquarters in Atlanta, Ga. The laboratory is equipped to conduct glue-line tests against all commercial and government standards, but unless otherwise specified, all sample panels are tested against the specifications set forth in U. S. Department of Commerce Commercial Standard CS35-47. This standard with certain SPMA revisions, is also the basis for present grading practices of mills participating in the newly announced grad-marking program.

SPMA grade stamps and certificates, issued to mills complying with requirements, indicate the veneer grade of both face and back and the type of glue line. Grade 1-1 (Good), 1-2 (G1S, So1S) and 2-2 (So2S) are stamped on one end of the panels. Grade 1-3 (G1S), 2-3 (So1S) and 3-3 (Utility) are stamped on the back.

To assist the buyer and seller in any dispute concerning the grade of a shipment of SPMA grade-marked plywood, the association is prepared to furnish an impartial inspector to re-grade the shipment.

Engineering firm names new construction chief

Ford, Bacon & Davis, engineers-constructors, with offices in New York, Philadelphia, Chicago and Los Angeles, have announced the election of Charles C. Whiltesey, 47, as vice-president in charge of construction. He has been with the firm since 1925 and was elected a director in 1946.

It was also announced that he has been elected executive vice-president of the firm's subsidiary, Ford, Bacon & Davis Construction Corp., with headquarters at Monroe. La. He has been an officer and director of that company for several years.

Mr. Whittlesey attended Washington University in St. Louis and the Missouri School of Mines. He has had charge of the engineering and construction of many of the large scale projects handled by the firm, among them the facilities of the Carbide and Carbon Chemical Corp. at Texas City, Tex.

ASCE meeting discusses wide variety of subjects

(*Continued from* p. 7)

pected to take about 10 years has occurred.

Design theories questioned

Prof. Casagrande said "To my knowledge this is the first time that design of runways was based on the increase in bearing capacity of the underlying clay subgrade produced by consolidation under weight of base and pavement. Since the clay fill originally had a California bearing ratio of much less than one, it would not have been possible to design and build the base and pavement utilizing any of the accepted design methods." He went on to say that the base and pavement could support a 65,000-lb. wheel load within one year and should take a load of 125,000 lb. at the end of five years.

Soil conference reported

The afternoon session on soil mechanics was given over to reports of the Second International Conference on Soil Mechanics and Foundations held in Rotterdam in June. Karl Terzaghi led off with a report on the discussions of field investigations, centering his comment on penetration cones recently developed in Europe that appear to have great promise for quick determination of the bearing characteristics of certain types of soils. In soils of varying density below the surface, better results are obtained than by taking borings and at much less cost.

Clay products group urges building barrier removal

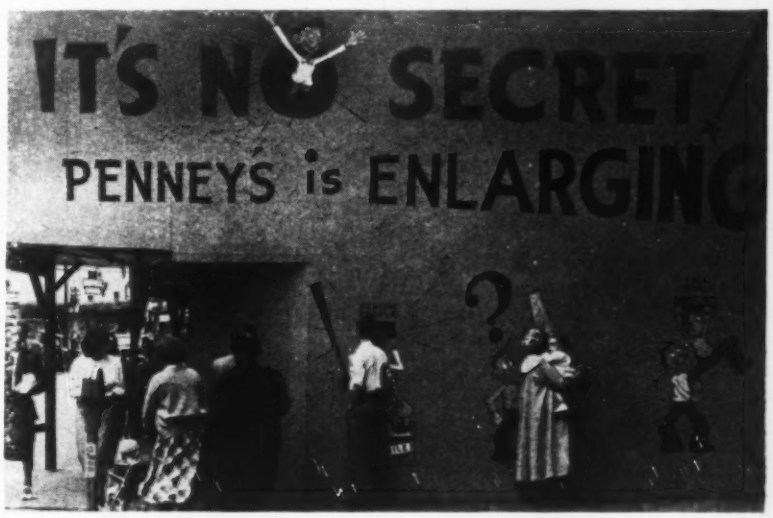
Barriers to construction progress must be eliminated if America is to make up its building deficit. This is the conclusion of the Structural Clay Products Institute mason training promotion committee's annual report, given Oct. 20 at the Institute's convention in French Lick, Ind. SCPI is an association of brick and tile manufacturers.

The report was pegged on *Engineering News-Record's* Oct. 7 news report on bricklaying, in which apprentice transfusions were seen as the only hope for the distressed brick construction industry.

Barriers to which the report pays particular attention are the bricklayer apprenticeship bottlenecks that were reported by *ENR*: Restrictive practices by local unions, and some contractor non-cooperation.

Summaries of bricklayer apprentice promotion (what is being done to overcome the barriers) by eight national groups as well as by nine regional manufacturers form the main body of the report. In general, present activities are deemed sufficient in scope but insufficient in magnitude. The most important move is the creation of more joint apprenticeship committees. Emphasis is placed on both normal union apprenticeship and independent trade school training.

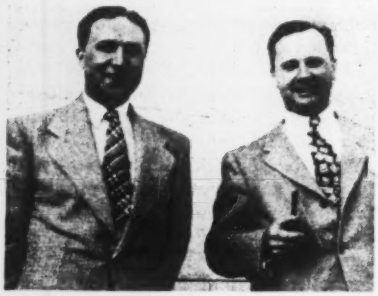
Implicit in the report is recognition of the danger that brick construction will continue to lose ground to competing materials if the bricklayer shortage is not relieved.



SIDEWALK SUPERS INVITED—Pedestrians are not nearly so annoyed by a construction-caused detour in Seattle, Wash., since contractor S. S. Mullen provided facilities for all sizes of superintendents around the $1,000,000 addition to J. C. Penney's store.

MEN AND JOBS

Col. Kingsley S. Anderson, who has been with the V Corps Engineers at Fort Bragg, N. C., since January, 1947, has been transferred to duty in the European Command. He obtained his engineering degree at the University of Michigan and entered the Army in 1923. He was on jungle mapping duty in Panama from 1929 to 1931, and after returning to the states for a tour of domestic posts was transferred to the Philippines in 1936 where he was in charge of building the fortification works at Corregidor. In 1942 he organized the 48th Engineer Combat Regiment, later the 1108th Engineer Combat Group, which served at Oran, Naples, Cassino and Rome. He then was made chief of operations of the Engineer Section of the Sixth Army Group. After the war he served as assistant to the 4th Army Engineer at San Antonio, Tex., and later took command of the 1st Engineer Training Group at Fort Belvoir, Va.



F. C. Mirgain (left), professor of civil engineering, Rutgers University, New Brunswick, N. J., and Rolf Eliassen, professor of sanitary engineering, New York University, New York City, exchanged school talk on Atlantic City's boardwalk during the recent American Water Works Association Convention.

Morrison-Knudsen, S.A., has moved to new offices at Balderas 44-507, Mexico, D. F.

J. H. Hawes, municipal engineer, Owen Sound, Ont., has been superannuated and replaced by **F. H. Cooke.**

Harry H. Lee, Jr., has resigned as borough engineer of Morrisville, Pa., to enter private engineering practice.

William A. White, recently come from Scotland, has been named construction supervisor of Grantham Township, Ont.

Miles Drake, civil engineer, has been appointed city engineer of Auburn, Wash., on a part-time basis. He succeeds **Earl G. Forbes,** who resigned.

William J. Hagenlocher, North Canton, Ohio, has been appointed field engineer for the Portland Cement Assn. in 20 central and northeastern Ohio counties.

Charles R. Herbert, city engineer of Quincy, Mass., was recently appointed commissioner of public works by Mayor Charles A. Ross. Mr. Herbert is a graduate of Massachusetts State College. He served with the U.S. Forestry Department, the Bethlehem Steel Co., and George B. Cabot & Associates, Boston until 1945, when he was appointed city engineer of Quincy.

John Joseph Curtin, 70, civil engineer, retired recently after 44 years with the Washington, D. C., highway department. He was an associate engineer in charge of sidewalk and alley projects. He plans to do engineering consultant work.

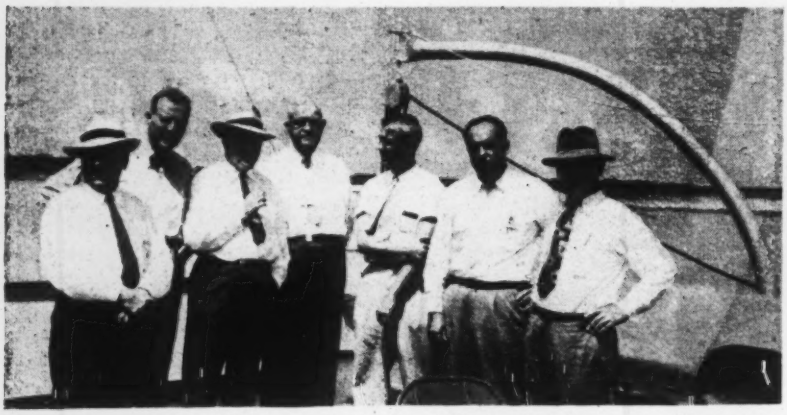
J. C. Aker has been appointed chief engineer of the Nashville, Chattanooga & St. Louis Ry. in place of the late R. L. Schmid, and **R. W. Mabe** is now assistant chief engineer and **S. H. Hailey,** senior assistant at Nashville.

Gordon P. Larson, who led 13 applicants for the post in a civil service examination, has been appointed assistant director of the Los Angeles County Air Pollution Control District. Larson was a lieutenant colonel in the Army Corps of Engineers during the war. He had been employed by the district as a senior inspector since last April.

Edward A. Beck, who becomes town manager of Pulaski, Va., Nov. 1, is a graduate of Virginia Polytechnic Institute and was a lieutenant in the Navy Civil Engineer Corps during the war.

J. S. Hockler has resigned as superintendent of public works at Martinsville, Va.

Ray V. Tilly, for nearly ten years superintendent of highways for Sangamon County, Ill., has resigned to devote his full time to the engineering firm of Crawford, Murphy and Tilly.



Inspecting the site of proposed Chain of Rocks Canal on the Mississippi River during the recent pre-bidding conference held by St. Louis District, Corps of Engineers, are, left to right, D. C. Andrews, Turner Construction Co.; Leo Harris, Minneapolis Dredging Co.; A. M. Thompson, La Crosse Dredging Co.; L. S. Oakes, Winston Bros. Co.; A. M. Thompson, Jr.; and A. C. Jonsson and S. C. Doughty, both with River Construction Corp.

Frederick W. Crane, manager, Buffalo, N. Y. Sewer Authority, recently took time off to show an *ENR* editor the proposed Kensington storm-water drainage project which will include a large retention basin and pumps for delivering retained water to sewers during dry weather.

Palmer H. Slack, assistant city engineer of Lansing, Mich., for the last seven years except for 27 months spent in the U. S. Navy, has resigned to become city engineer for Benton Harbor, Mich. He fills the vacancy left by the late Clifford Hiesler.

James G. Wallace, civil engineer, has resigned as city manager of Hopewell, Va., to take a similar post at Fairlawn, N. J.

These changes in administrative personnel of the Omaha district office of Army Engineers have been announced; **Maj. H. G. Lux,** who has been project engineer for the Oahe project, is on leave before reporting to the Command and General Staff at Fort Leavenworth, Kan.; **Lieut. Col. Howard A. Morris** goes to Omaha from the Armed Forces Staff College at Norfolk, Va. He has been named area engineer of the new Omaha area office at Pierre, S. D.; **Lieut. Col. John W. Paxton,** who recently received his master's degree in engineering at Iowa State College, has been assigned as area engineer at Nebraska City. Military assistants will be **Capt. Frank B. Smith,** who has just completed a soils mechanics course at Massachusetts Institute of Technology, and **Capt. Robert E. Burrows, Jr.** who this year received his master's degree in engineering at MIT.

Lawrence William Matson of Moncton, N. B., has been named superintendent of construction for the Canadian National Railways with system jurisdiction and headquarters at Montreal.

Ross J. Bucks of Edinburg, Ind., has been appointed city engineer and consultant to all city departments of Bloomington, Ind., succeeding Worth Yoder, resigned. He was consulting engineer in Bloomington in 1918 with the Charles H. Hurd Engineering Co., during construction of a water sedimentation plant.

Lt. Col. Vernon A. Shurm, assistant engineer commissioner in Washington, D. C., is attending the command and general staff school at Fort Leavenworth, Kan. **Col. C. H. Whitesell, Jr.** is taking his place on the district engineering staff.

C. W. Taylor, Oregon, Ill., has been made engineer in charge of general construction for the Illinois division of parks and memorials.

Truman A. Smith, of Mobile, has been appointed consulting engineer for the Alabama state docks, succeeding the late J. P. Ewin.

Taking a jeep ride in the 78-in. concrete pipe of the new $750,000 Fifteenth Street storm sewer at Great Falls, Mont., are, left, "Dutch" Cave, construction superintendent, and at the wheel, William J. Wenzel, director of public works. The contractors are Anderson & Millensifer.

INTERNATIONAL INSPECTION GROUP—Major General Sir Eustace Tichell, engineer-in-chief of the British War Office, (fourth from left) views U. S. Corps of Engineer construction of the new heavy bomber base near Limestone, in the northeast corner of Maine. With him are Robert E. Lee, resident engineer, Maj. L. L. DeNoya and Col. R. C. Brown, tour directors, Brig. Gen. R. G. Moses, New England Division Engineer, Col. J. C. Walkey, Royal Engineers' liaison officer to the U. S. Army Engineers, and Lt. Col. G. W. Carlson, assistant to the New England Division Engineer.

OBITUARY

William A. O'Dea, 55, civil engineer with the office of the Housing Expediter, died in Washington, D. C., on Oct. 7. Mr. O'Dea had been with the OHE for about a year. Previously he was a civil engineer with the Public Buildings Administration and the Federal Works Agency for 17 years. Before his government service he was with private engineering firms.

Benjamin Johnston, 59, retired construction engineer, died in Maumee, Ohio, Oct. 7. During World War I, he was a corporal in the 309th Engineers.

Sidney Bamberger, partner in the San Francisco firm, of Bamberger and Reid, died Sept. 18. He was chief engineer of Pollack Stockton Ship Building Co. during the war, and later joined the department of structural design for Kump & Falk. Since 1946 he had been in private practice with John L. Reid.

Joseph A. Tosi, chief engineer for the E. J. Cross Co. of Worcester, Mass., died Oct. 8 at Sterling, Mass. He was a founder of the Worcester Society of Engineers.

Homer M. Hulsey, 51, a civil engineer for the Federal Works Agency in Washington, D. C., died Oct. 1.

C. Eugene Pettibone, 64, safety engineer, vice-president and manager of the engineering department of the American Mutual Liability Insurance Co., died Oct. 10 in Newton, Mass. He was a director of the Massachusetts Safety Council and helped to organize the National Safety Council. He also served on many safety advisory committees for the U. S. Department of Labor. Graduated from the Case Institute of Technology in 1908, for a time he was connected with the steel industry in Pittsburgh, Pa.

Antes L. Snyder, former senior assistant engineer for the bureau of engineering, Department of Public Works, Pittsburgh, Pa., died Oct. 8. Prior to his association with the city, he was engaged with the Pennsylvania Railroad in the chief engineer's department. He also was an assistant engineer on numerous improvements made by the railroad.

Edwin D. Boyer, 75, former civil engineer of the New York Air Brake Co., Watertown, N. Y., died Oct. 9. He had been with the company for more than 40 years.

Lawrence P. Cockrill, 48, long-time engineer-secretary of the city and county planning commissions of Memphis, Tenn., died Oct. 3. He attended George Washington University, and was trained in city planning by Harland Bartholomew of St. Louis, Mo., municipal planning specialist.

John Alfred Wilcox, 67, civil engineer, who had been on the engineering staff of the Longview Fibre Co. at Longview, Wash., since 1930, died Oct. 7 in Portland, Ore. He was graduated from the University of California in 1904 and held positions in California and Alaska before joining the Longview company.

Clark C. Wright, 68, of Carr and Wright, Inc., Chicago architects—engineers, died Oct. 12. He participated in the design and construction of important buildings in various parts of the United States. In the first world war he held the rank of colonel in the Construction Division of the Quartermaster General's staff.

N. Y. highway engineers seek salary increases

Approximately 1,700 engineers employed by the New York State Department of Public Works will receive pay increases if the State Association of Highway Engineers has its way.

Arthur W. Moon, chairman of the salary committee of the association, said an appeal is being drafted to bring present salaries for engineers in state service "in line with salaries in other government and private employment."

Mr. Moon, an assistant civil engineer in the Public Works Department, said support for the association position is sought from the Civil Service Employees Association.

The engineers' appeal for salary raises is to be made to the State Salary Standardization Board soon.

Association representatives said the state's expanded highway program is expected to require additional personnel, and, in their opinion, without salary adjustments recruitment may prove difficult. In addition, the association said, an increasing number of state engineers can be expected to accept outside positions where pay is better.

CONSTRUCTION ACTIVITY

CONTRACT VOLUME

Continental U. S. Only
(Millions of Dollars)

	Week of Oct. 21 1948	Cumulative 1948 (43 wks.)	Cumulative 1947 (43 wks.)	% Chge
Federal	$11.3	$800	$520	+53
State & Mun.	62.5	2,182	1,442	+51
Total Public	$73.8	$2,982	$1,962	+52
Total Private	55.2	2,764	2,637	+ 5
U. S. Total	**$129.0**	**$5,746**	**$4,599**	**+25**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

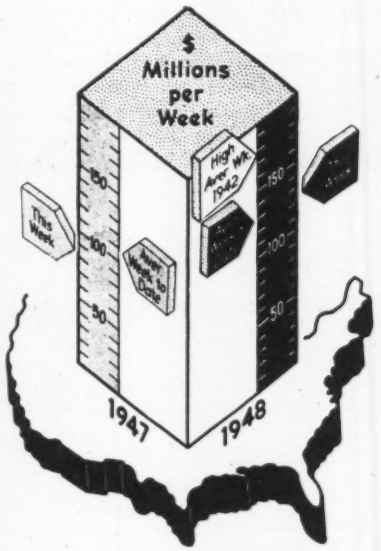
Dollar Volume (Millions)

Type of Work	This Week	Cumulative 1948 (43 wks.)	Cumulative 1947 (43 wks.)	% Chge
Waterworks.	$1.4	$168	$91	+85
Sewerage ..	3.3	181	114	+59
Bridges	4.4	234	157	+49
Highways ..	19.9	859	667	+28
Earthwork, Waterways.	8.1	433	247	+75
Buildings, Public	30.9	922	478	+93
Industrial .	27.3	886	738	+20
Commercial	26.0	1,528	1,541	—0.8
Unclassified.	7.7	535	566	— 5

NOTE: Minimum size projects included are: Waterworks and waterway projects, $28,000; other public works, $50,000; industrial buildings, $68,000; other buildings, $250,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1948 (43 wks.)	Cumulative 1947 (43 wks.)	% Chge
NON-FEDERAL ..	$3,805	$1,984	+ 92
Corporate Securities	1,800	749	+140
State and Municipal	1,513	987	+ 53
U. N. Building Loan	65	....	....
Fed. Aid Highway	427	248	+ 72
FEDERAL	1,559	819	+ 19
**Total Capital ..... **	**$5,364**	**$2,803**	**+ 91**



As Reported this week to . . .
Engineering News-Record

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Oct.'48	480.21	230.84
Building Cost	Oct.'48	357.07	193.02
Volume	Sept.'48	240	105

ENGINEERING SCHOOLS

Engineering education good-will tour to Latin America—Scholarships at Arizona—New engineering buildings.

Dean S. S. Steinberg of the college of engineering at the University of Maryland has been sent by the Department of State to complete the good-will tour of Latin America in the interest of engineering education which he commenced in 1945, when he visited twelve countries. His itinerary includes Guatemala, Honduras, El Salvador, Bolivia, Paraguay and the Dominican Republic and Haiti. The purpose is to survey engineering education in the other American republics; to promote closer relations between their engineering educators and those of the United States; to arrange for exchange of professors; and to provide for a wider interchange of engineering and technical publications.

Dean Steinberg will return this month. He travels as the representative of the American Society for Engineering Education, being president of its Engineering College Administrative Council, and chairman of the Committee on Latin America of the Engineers Joint Council.

Scholarships

Scholarships for students of civil and mechanical engineering have been underwritten at the University of Arizona by the Arizona chapter, Associated General Contractors of America. Open to all graduates of Arizona high schools, the scholarships will amount to $200 a year, with three scholarships in effect at all times. Porter W. Womack, president of the Arizona chapter, said that in addition to scholarships, contractors have agreed to provide summer jobs for the students in order to give them practical experience.

New Extension Course

A part time graduate school program to enable students to earn a master's degree in engineering will be offered this fall by the University of Wisconsin in evening courses at Milwaukee. The program is designed to permit men to continue their education while employed.

Tulane Educator Honored

Allegheny College, Meadville, Pa., has conferred an honorary Doctor of Science degree on Prof. Donald Derickson, formerly head of the school of civil engineering of Tulane University and now professor emeritus. He attended Allegheny College and was later graduated from the school of civil engineering, Dartmouth College. Professor Derickson's grandfather also received a doctorate from Allegheny over one hundred years ago. Professor Derickson was a member of the faculty of the school of civil engineering of Cornell University until 1912. From that year to 1945 he was head of the school of civil engineering of Tulane University.

New Laboratories

The North Carolina Advisory Budget Commission has released funds for the erection of an engineering laboratories building providing additional instructional and experimentation space for the N. C. State College school of engineering at Raleigh. Construction will entail an estimated expenditure of $1,210,333, including $965,333 for the building and $245,000 for facilities. Funds have been appropriated.

Educational Film Directory

Nearly 600 sources of 16-mm. films for teachers and school administrators are listed in a 28-page directory recently issued by the Office of Education, Federal Security Agency. Copies of the directory, entitled "A Partial List of 16-mm. Film Libraries," are available without cost from the Visual Aids Section of the Office of Education, Federal Security Agency, Washington 25, D. C.

Faculty Notes

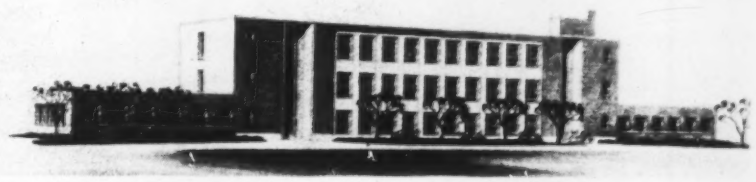
George F. Branigan, formerly dean of the engineering division of Bradley Polytechnic Institute, Peoria, Ill., and later a member of the faculty of Iowa State College at Ames, is now dean of the University of Arkansas college of engineering, succeeding George Patrick Stocker, dean emeritus, who will continue in a non-administrative capacity. Dean Branigan received the degree of bachelor of science in civil engineering from the University of Nebraska and master of science in engineering from Kansas State College. He served on the faculty of the latter college for 13 years, resigning in 1942 to become a member of the division of engineering faculty at Bradley. He joined the faculty of Iowa State College as a full professor in 1946.

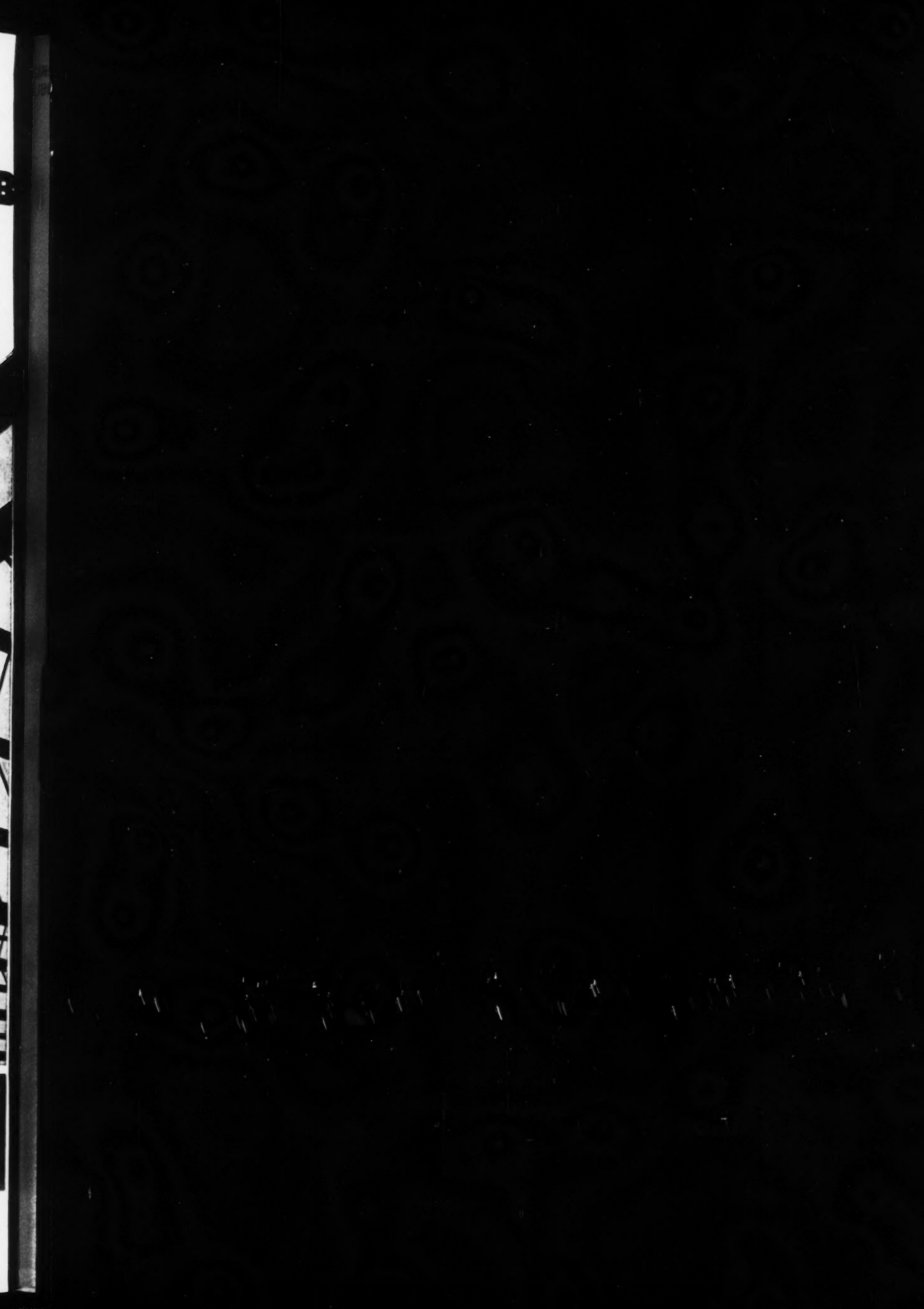
Charles T. Bagley, University of Tennessee, has been appointed a visiting assistant professor of civil engineering, University of Illinois, for this academic year. He has been active in work of the airport development laboratory at the University of Tennessee. He attended George Washington University and the University of Tennessee and served six years in the Army Corps of Engineers.

James E. Levings has been appointed assistant professor of civil engineering at Rose Polytechnic Institute, Terre Haute, Ind. He received his A.B. degree from Harvard in 1936 and his M.S. degree there in 1939. He majored in soil mechanics.

Ebenezer Vey, who has been an instructor in civil engineering at Johns Hopkins University, Baltimore, Md., the last two years, has joined the staff of the Illinois Institute of Technology, Chicago. He is a 1943 graduate of the California Institute of Technology, Pasadena, with degrees of bachelor of science in 1941, master of science, 1942, and C.E. in 1943. He was awarded a doctor of engineering degree by Johns Hopkins this year.

Jean A. Anderson, instructor in engineering drawing at the University of Wisconsin's extension service in Milwaukee, has been appointed assistant professor of technical drawing at Illinois Institute of Technology. He received his B.S. and M.S. degrees from the Stout Institute of Menomonie, Wis.



NEW ENGINEERING BUILDING—Gonzaga University of Spokane, Wash., has awarded a contract to the Gus J. Bouten Construction Co. of that city for construction of a $500,000 engineering building, shown above in the perspective of Architect John W. Maloney. Completion is scheduled by next spring. The building is designed for more than double the present enrollment. Facilities will be increased by 36,400 sq. ft. of laboratories, offices and classrooms. The buliding is to be of modular construction with functional design.

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